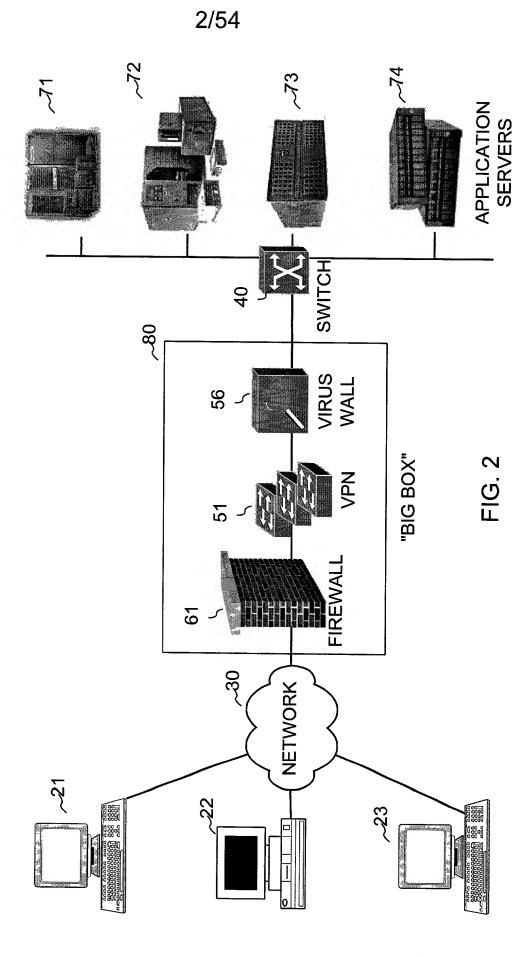


FIG. 1



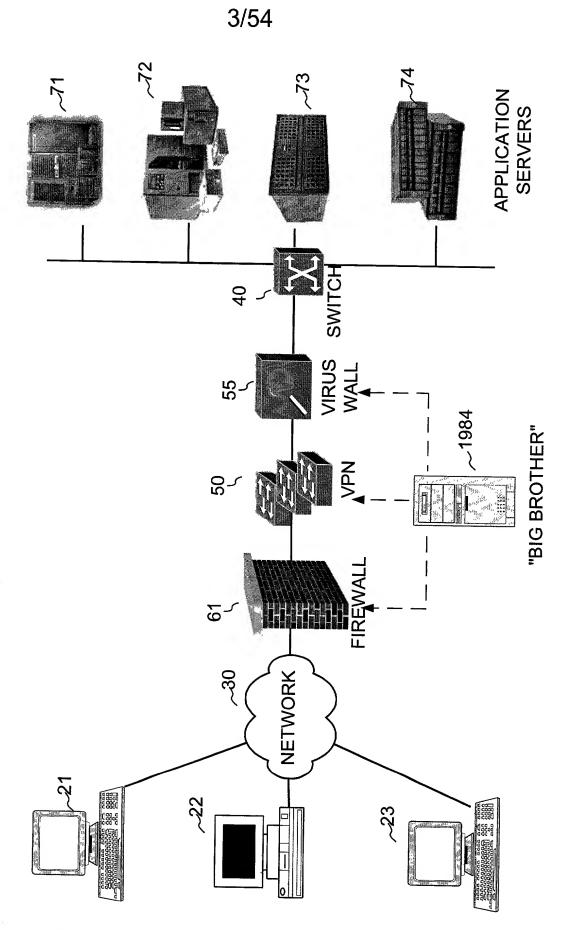


FIG. 3

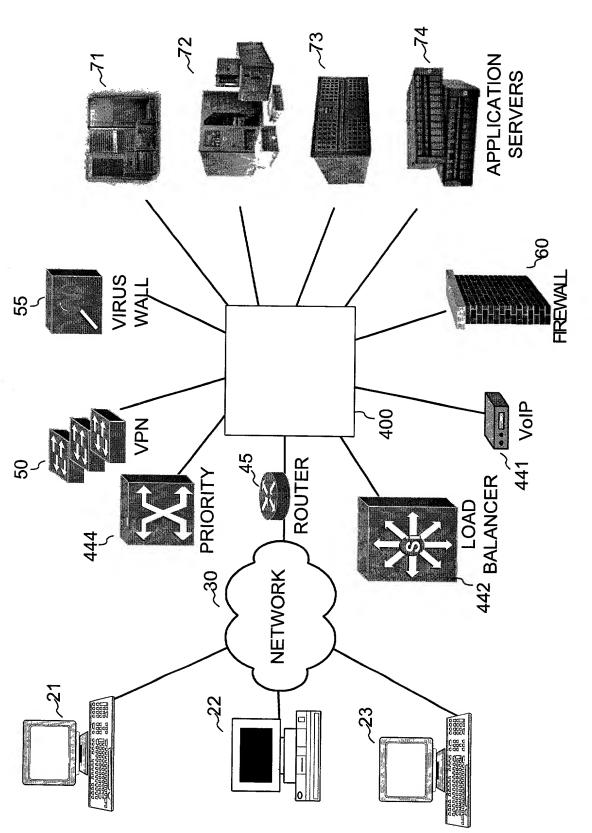
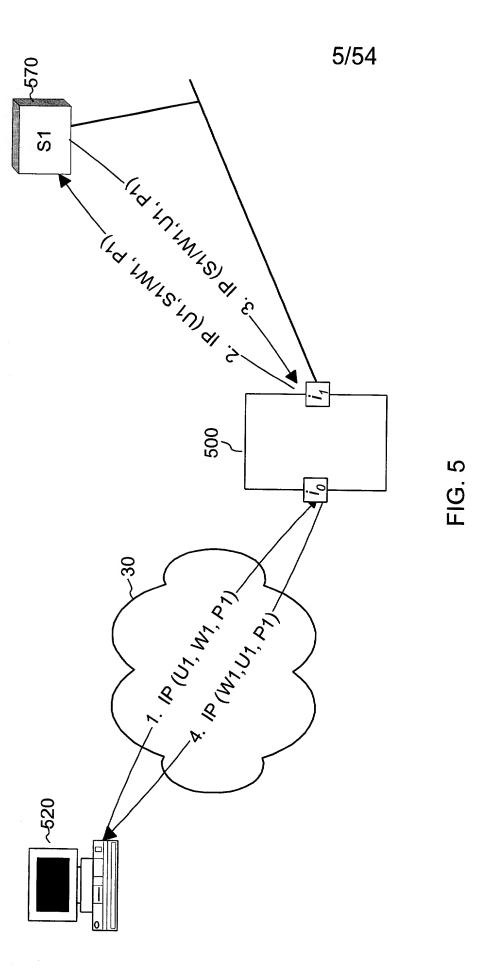


FIG. 4



STEP	STEP FROM	10	SOURCE IP	DESTINATION IP	SERVICE
					PORT
	U1 (CLIENT)	PACKETING	10	W1	P1
		ENGINE	_		
7	PACKETING	S1	01	S1 (IF NAT IS	P1
	ENGINE	(SERVER)		REQUIRED); W1 (IF S1	
T4				SUPPORTS LOOPBACK	
				OR ALIAS)	
က	S1	PACKETING	S1 (IF NAT IS	01	D ,
		ENGINE	REQUIRED); W1 (IF S1		
			SUPPORTS LOOPBACK		
		41	OR ALIAS)		
4	PACKETING	101	W1	01	P1
	ENGINE				

FIG. 5A

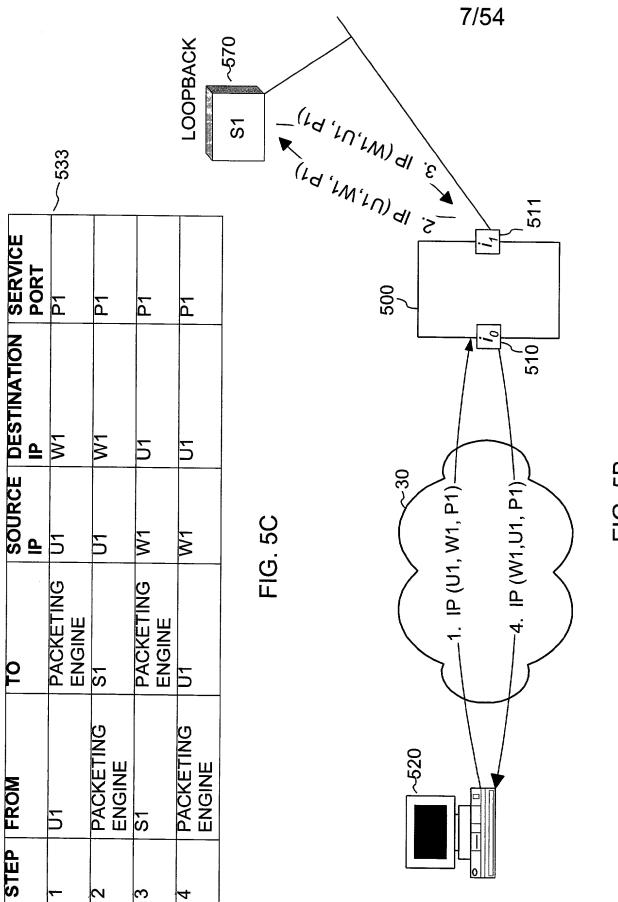
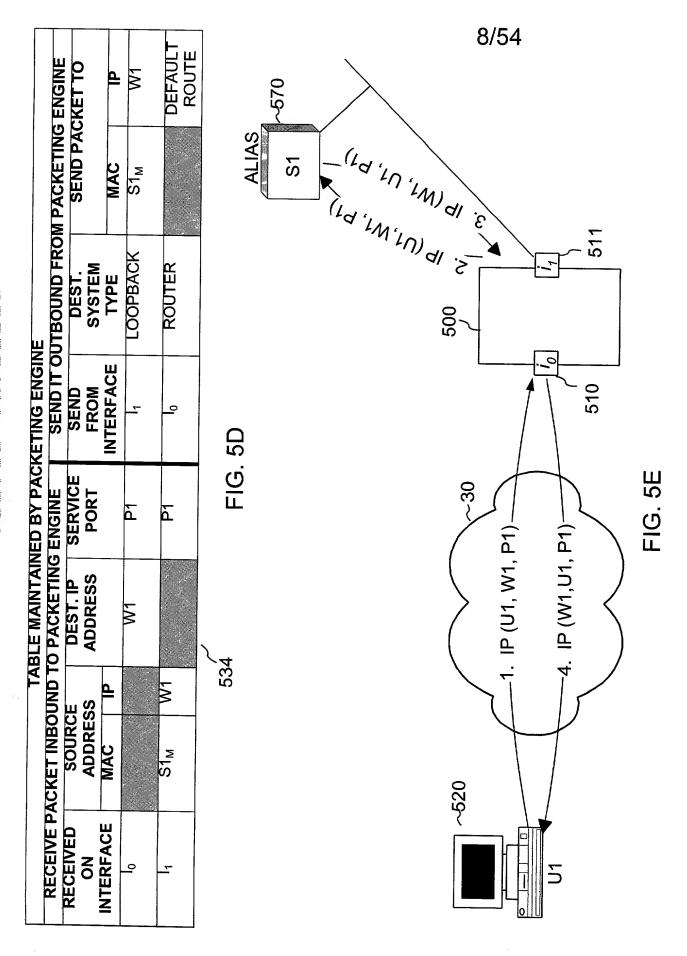


FIG. 5B



*			~~536))					
SERVICE	PORT	P1		٩		P1		7	
SOURCE DESTINATION SERVICE	ᅀ	W1		W1		U1		U1	
SOURCE	<u> </u>	U1		101		W1		W1	
10		PACKETING	ENGINE	S1		PACKETING	ENGINE	01	
STEP FROM		01		PACKETING	ENGINE	S1		PACKETING	ENGINE
STEP		~		2		3		4	

FIG. 5F

PACKET	INBOUN	RECEIVE PACKET INBOUND TO PACKETING ENGINE SEND IT OUT	G ENGINE		UTBOUND FR	SEND IT OUTBOUND FROM PACKETING ENGINE	S ENGINE
SOURCE ADDRESS	CE :SS	DESTINATION IP ADDRESS	SERVICE PORT	SEND VIA INT.	DEST. SYSTEM	SEND PACKET TO	KET TO
MAC	IP				TYPE	MAC	Ы
		W1	P1	-	ALIAS	S1 _M	W1
S1 _M	W1		P 4	0	ROUTER	i.	DEFAULT ROUTE
				537		538	

FIG. 5G

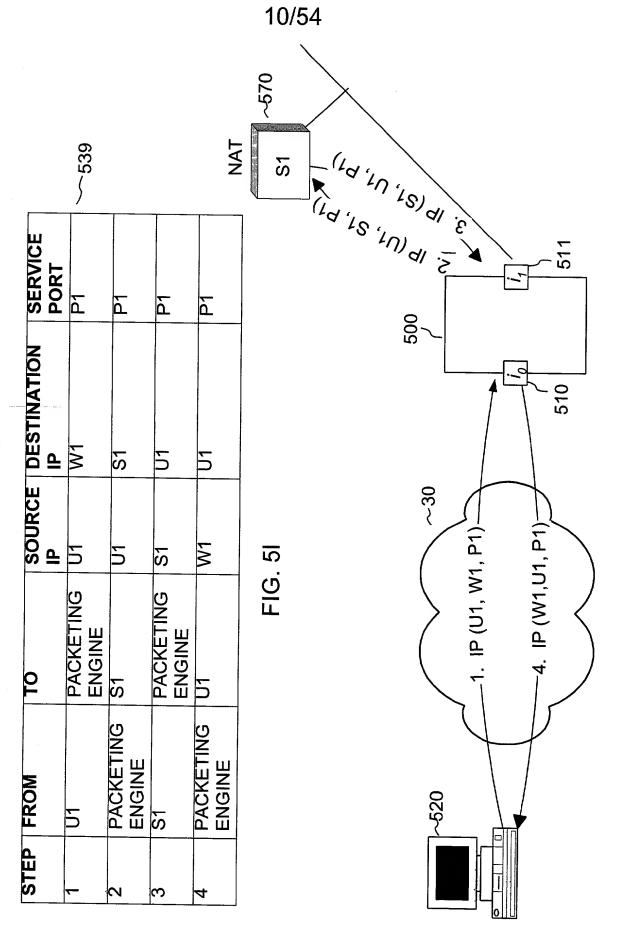
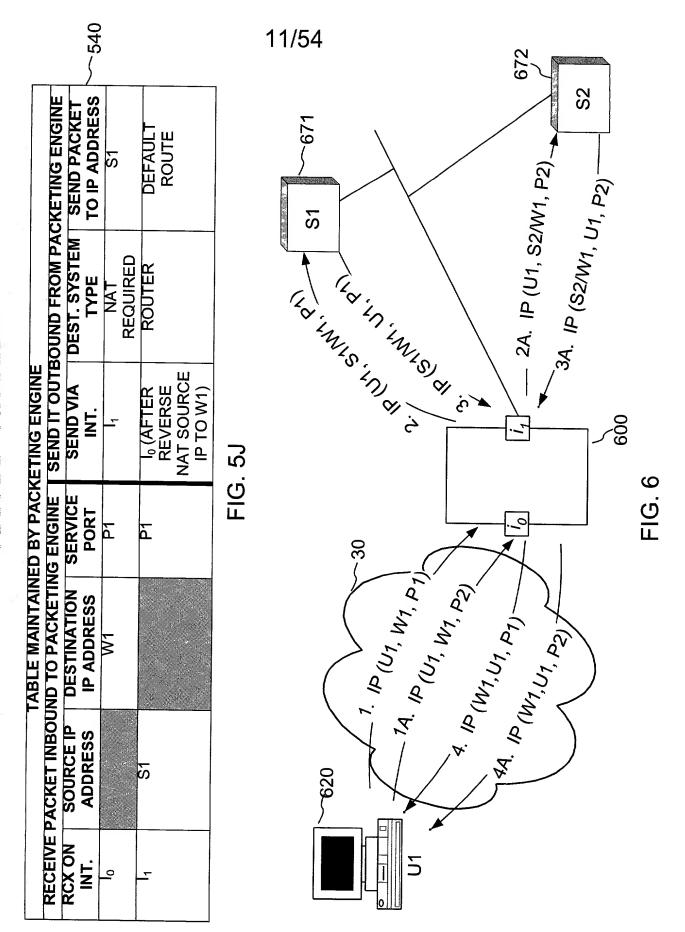


FIG. 5H



STEP	FROM	10	SOURCE IP	DESTINATION IP	PORT
		The Part of the Pa	PORTPI		
~	U1 (CLIENT)	PACKETING ENGINE	U1		P1
2	PACKETING ENGINE	S1 (SERVER)	7	S1 (IF NAT IS REQUIRED); W1 (IF S1 SUPPORTS LOOPBACK OR ALIAS)	P
က	S.	PACKETING ENGINE	S1 (IF NAT IS REQUIRED); W1 (IF S1 SUPPORTS LOOPBACK OR ALIAS)	,	P1
4	PACKETING ENGINE	D ₁	W1	U1	P1
			PORT P2		
1 A	U1 (CLIENT)	PACKETING ENGINE	7		P2
2A	PACKETING ENGINE	S2 (SERVER)	D1	S2 (IF NAT IS	P2
	I)			SUPPORTS LOOPBACK OR ALIAS)	
3A	S 1	PACKETING ENGINE	S2 (IF NAT IS REQUIRED); W1 (IF S1	U1	P2
			SUPPORTS LOOPBACK OR ALIAS)		
4A	PACKETING ENGINE	U1	W1	U 1	P2
			FIG. 6A	631	

12/54

FIG. 6A

RECE	IVE PAC	KET INI	TABLE MAINTAINE RECEIVE PACKET INBOUND TO PACKETING	MAINTAINEL	E MAINTAINED BY PACKETING ENGINE PACKETING SEND IT OUTBOUR	ACKETING ENGINE SEND IT OUTBOUND FROM PACKETING ENGINE	KETING E	NGINE
SCX ON	SOURCE IP ADDRESS	CE IP	DEST. IP ADDRESS	SERVICE PORT	SEND VIA INT.	DEST. SYSTEM TYPE	SEND P.	SEND PACKET TO
Ë Z	MAC	<u>a</u>	ļ.,				MAC	<u>a.</u>
0		46	W1	Ъ	-	LOOPBACK	S1 _M	W1
						ALIAS	S1 _M	W4
	2.1.5	W/4		Ď				2.
	<u>≥</u>	- S		Ľ	01	KOULEK		DEFAULT
	<u>≥</u>	<u>_</u>			IO (AFIEK REVERSE NAT			ROUTE
					SOURCE IP TO			
					W1)			
			W	P2	-	LOOPBACK	$S2_{M}$	W1
				* · · · · ·	<u> </u>	ALIAS	S2 _M	W1
	0					NAT	Vanis de la companya	\$2
	SZ _M	LM.		P2	0,	ROUTER	us.	DEFAULT
	SZM	 25			I ₀ (AFTER REVERSE NAT			ROUTE
					SOURCE IP TO			
					(1 (A)			
					FIG. 6B	632	2	

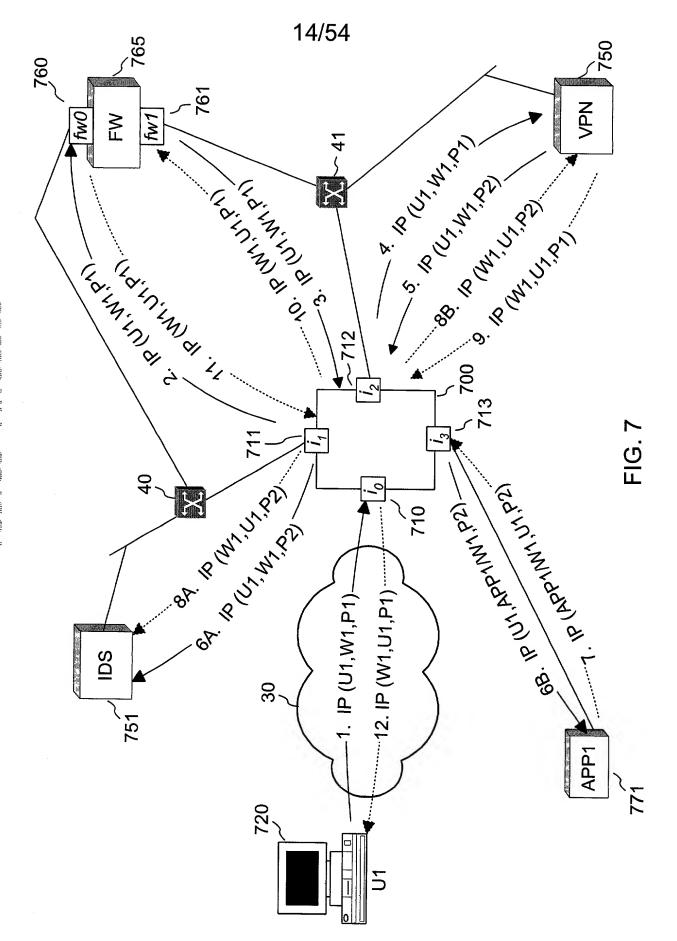
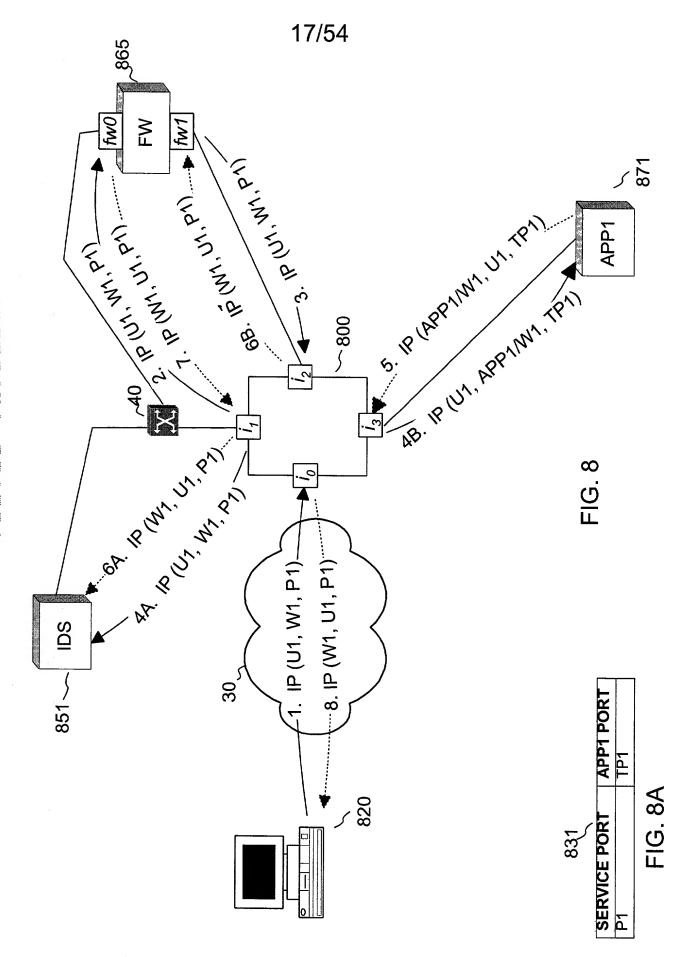


FIG. 7A

	SEND IT OUTBOUND FROM PACKETING ENGINE	DEST. SYSTEM SEND PACKET TO TYPE	MAC IP	IRANSPARENT FW0 _M W1		<u></u>	-OOPBACK APP1 _M W1	ALIAS APP1 _M W1	NAT APP1	LOOPBACK APP1 _M W1	ALIAS APP1 _M W1		IDS _M IDS _M IDS	TRANSPARENT VPN™	 RANSPARENT FW1 _M	ROUTER DEFAULT ROUTE	732
E MAINTAINED BY PACKETING ENGINE	END IT OUTBO			TRANS		TRANS		AL	Z		AL	NAT					<u>(</u>
PACKE	S	SEND VIA IINT		-	2		-13			13			_	12	12	0	(1 1 1
NTAINED BY	O PACKETING	SERVICE PORT		P1	Ы	P2				P2			P2		P1	<u> </u>	
		DEST. IP ADDRESS	3	W1	W1	W1					18 (18) 18 (18)	100				M Marek	
	RECEIVE PACKET INBOUND ENGINE	SOURCE ADDRESS	MAC		FW1 _M	VPN _M				IDS _M			APP1 _M APP1	OR.		FW0 _M W1	
	RECEI	RCX ON INT.		0	12	2				-			£		2	- 1	

FIG. 7B

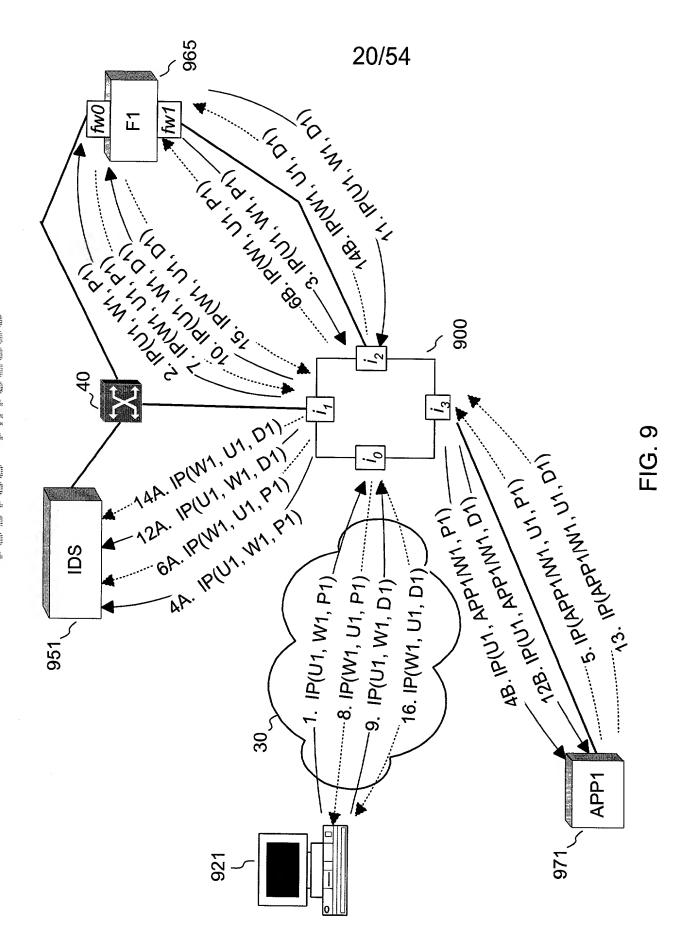


SERVICE PORT	P1	P1	P 1	P4	TP1	T P1	P1	Ь1	P1	P4
DESTINATION IP	W1	W1	W1	W1	APP1 (IF NAT REQUIRED); W1 (IF LOOPBACK OR ALIAS SUPPORTED BY APP1)	, ,	D1	U1	U1	01
SOURCE IP	101	101	101	U1	01	APP1 (IF NAT REQUIRED); W1 (IF LOOPBACK OR ALIAS SUPPORTED BY APP1)	W1	W1	W1	W1
10	PACKETING ENGINE	FW (INTERFACE FW0)		IDS	APP1	PACKETING ENGINE	IDS	FW (INTERFACE FW1)	PACKETING ENGINE	U1
		PACKETING ENGINE	CE	PACKETING ENGINE	PACKETING ENGINE	APP1	PACKETING ENGINE		ACE	PACKETING ENGINE
тер	_	7		4A	4B	ව		6B	2	8

FIG. 8E

	SINE	PORT	T-	P1	Ь	TP1	TP1	TP1	TP1	TP1	TP(P1	P.1	P1	
	KETING EN	SEND PACKET TO	<u>d</u>	W1	W1	W1	W1	APP1	W1	W1	APP1			DEFAULT	ROUTE
	FROM PACE	SEND PA	MAC	FWOM	IDSM	APP1 _M	APP1 _M		APP1 _M	APP1 _M		IDS _M	FW1 _M		
MAINTAINED BY PACKETING ENGINE	SEND IT OUTBOUND FROM PACKETING ENGINE	DEST. SYSTEM TYPE	-	TRANSPARENT	TRANSPARENT	LOOPBACK	ALIAS	NAT	LOOPBACK	ALIAS	NAT	TRANSPARENT	TRANSPARENT	ROUTER	
PACKETI	SEN	SEND VIA	Ľ.		1	3			ا ₃			1	12	01	
NTAINED BY	KETING	SERVICE PORT		P1	P1				Р1			TP1		P1	
TABLE MAI	RECEIVE PACKET INBOUND TO PACKETING ENGINE	DEST. IP ADDRESS		W1	W										
	ACKET IN	SOURCE Address	dl									_	× CK	W1	
	CEIVE PA	SOI	MAC		Y M							APP1 _M		FW _M	
	RE	o K	Ľ.	0	2							<u>_</u> e		-	

:IG: 8C



931

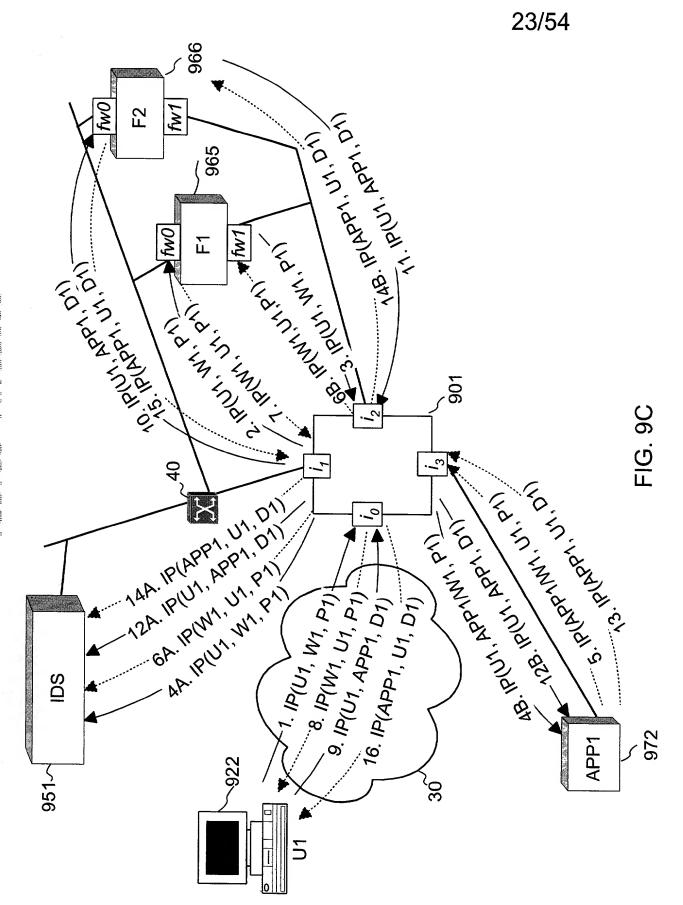
	400
16	H. S. H. H. S.
750	3
M. 1212.22	13.64
411.44	17
3	-1
(2	
	-
3	
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that that after that	1000
that that after that	1000
things then to the Roads then the	100

STEP	FROM	10	SOURCE IP	DESTINATION IP	PORT
~	U1 (CLIENT)	PACKETING ENGINE	101	W1	P1
2	PACKETING ENGINE	FIREWALL F1 (INT. FW0)	01	W1	P1
က	FIREWALL F1 (INT. FW1)	PACKETING ENGINE	U1	W1	P1
4A	PACKETING ENGINE	IDS	01	W1	P1
4B	PACKETING ENGINE	APP1	01	APP1 (IF NAT); W1	P1
				(IF LOOPBACK OR ALIAS)	
5	APP1	PACKETING ENGINE	APP1 (IF NAT); W1	U1	P1
			(IF LOOPBACK OR ALIAS)		
6A	PACKETING ENGINE	T	W1	U1	P1
6B	PACKETING ENGINE	FIREWALL F1 (INT. FW1)	W1	U1	þ
	FIREWALL F1 (INT. FW0)	PACKETING ENGINE	W1	101	P1
8	PACKETING ENGINE	U1	W1	U1	P1
6	U1 (CLIENT)	PACKETING ENGINE	01	W1	D1
10	PACKETING ENGINE	FIREWALL F1 (INT. FW0)	01	W1	D 1
=	W1)	PACKETING ENGINE	01	W1	01
12A		SQI	10	W1	D1
12B	PACKETING ENGINE	APP1	01	APP1 (IF NAT); W1	D1
				(IF LOOPBACK OR ALIAS)	
 3	APP1	PACKETING ENGINE	APP1 (IF NAT); W1 (IF LOOPBACK OR	U1	D1
			ALIAS)		
14A		\vdash	W1	01	01
14B	PACKETING ENGINE	W1)	W1	01	D1
15	(0 _M	CKETING ENGINE	W1	U1	D1
0	PACKELING ENGINE	01	W1	01	7

FIG. 9A

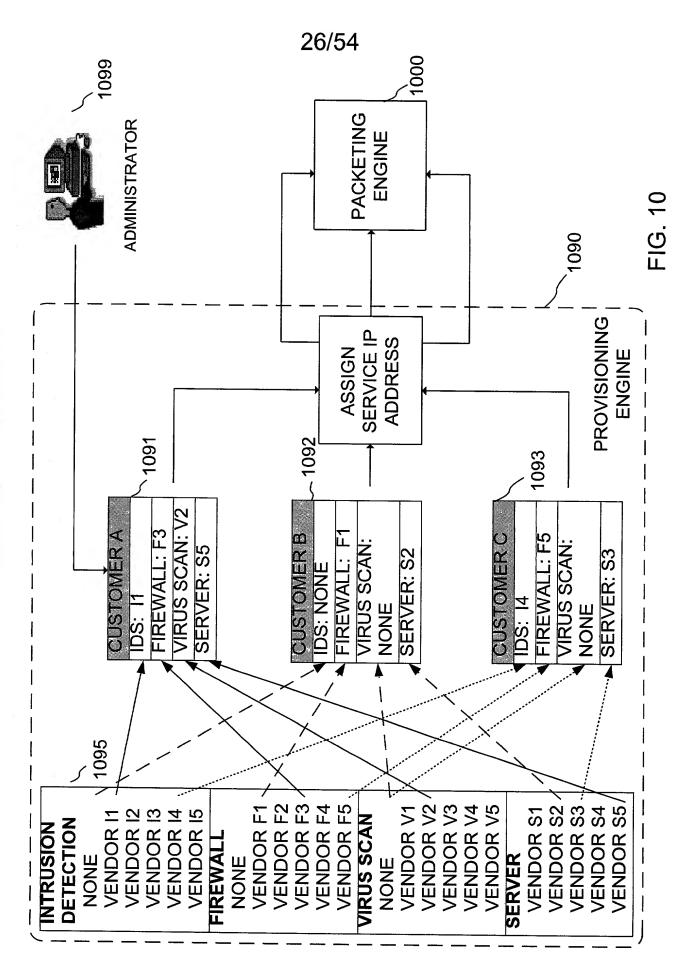
ETING ENGINE SEND IT OUTBOUND FROM PACKETING ENGINE	DEST. SYSTEM SEND PACKET TO		MAC	TRANSPARENT FWOM W1	:		RANSPARENT IDS _M W1	LOOPBACK APP1 _M W1	ALIAS APP1 _M W1	AT APP1	LOOPBACK APP1 W1	ALIAS APP1 _M W1		TRANSPARENT IDS _M	RANSPARENT FW1 _M		ROUTER DEFAULT	ROUTE	
TABLES MAINTAINED BY PACKETING ENGINE ND TO PACKETING ENGINE 1 SEND IT OUTBY	SEND DEST.		INT.	I, TRANS			I, TRANSI		AL	NAT	l ₃ LOOP	AL	NAT	I, TRANSE	I ₂ TRANSF		l _o ROU	***	
4CK	+	•	·,	1	<u>۲</u>	C	L	<u> </u>	2			<u></u> 上	ιO	_	<u></u> 上	10	 	<u>щ</u>	_
ITAINED BY TING ENGIN	SERVICE	PORT		P1 OR PORT	IN RANGE OF	71162701	P1 OR PORT	IN RANGE OF	$1025 \rightarrow 1125$		P1 OR PORT	IN RANGE OF	1025→1125	P1 OR PORT	IN RANGE OF	$1025 \rightarrow 1125$	P1 OR PORT	IN RANGE OF	1025→1125
TABLES MAINTAINED BY PARECEIVE PACKET INBOUND TO PACKETING ENGINE	DEST. IP	ADDRESS		W1			W1												
TINBOUN	RCE	SS3	<u>d</u>											APP1	OK W1				
IVE PACKE	SOURCE	ADDRESS	MAC	a (80)		7.77	FW1 _M			Ć.	IDS _M			APP1 _™			$LW2_{M}$		
RECE	RCX	NO !	E I				2							<u>_</u> e					

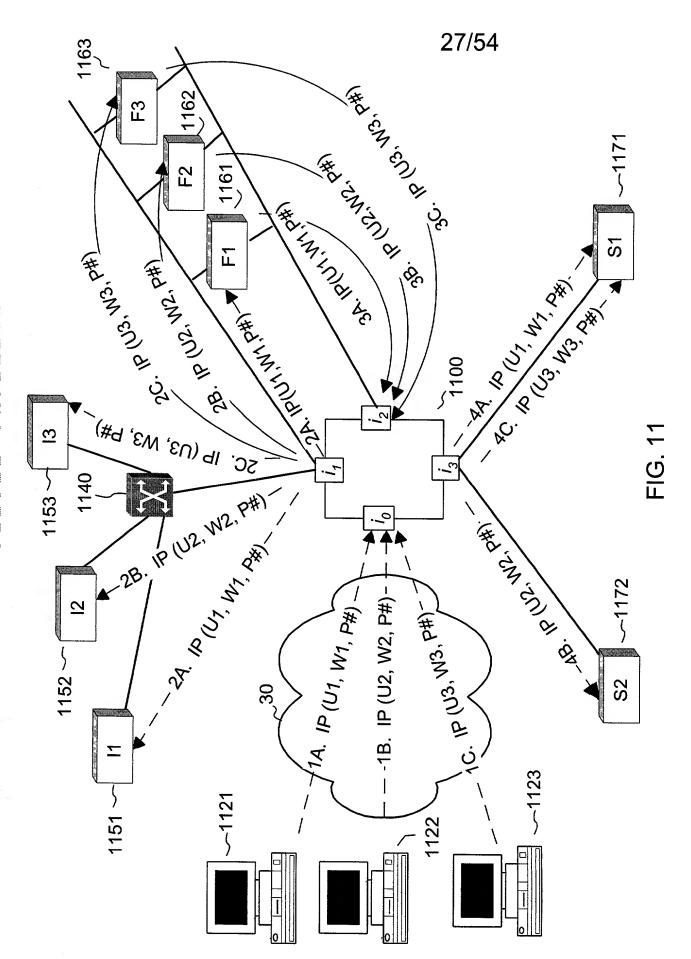
IG. 9B

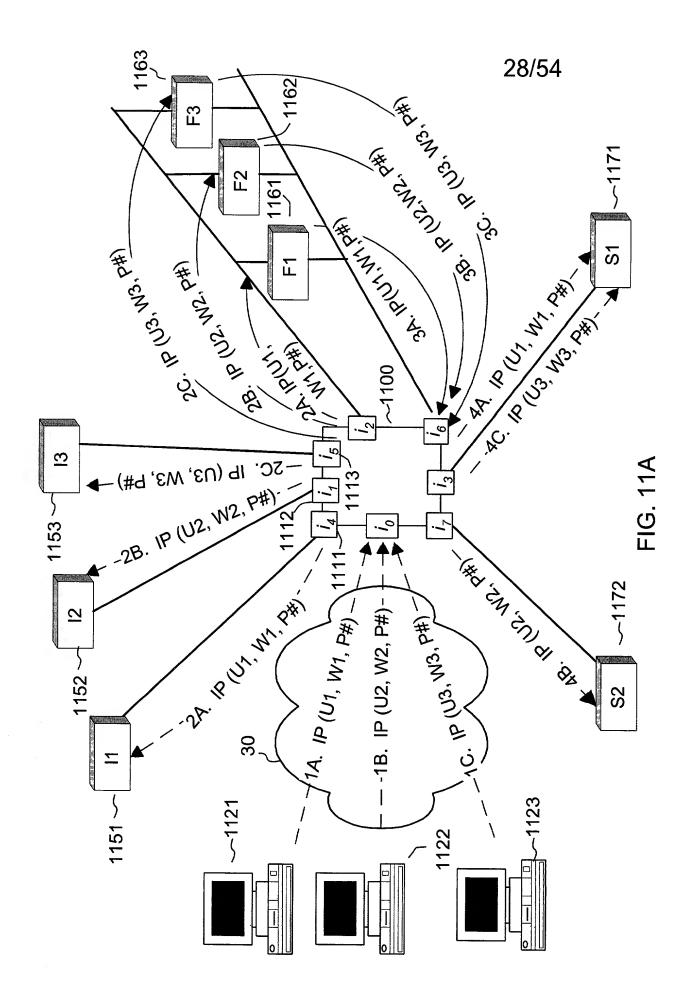


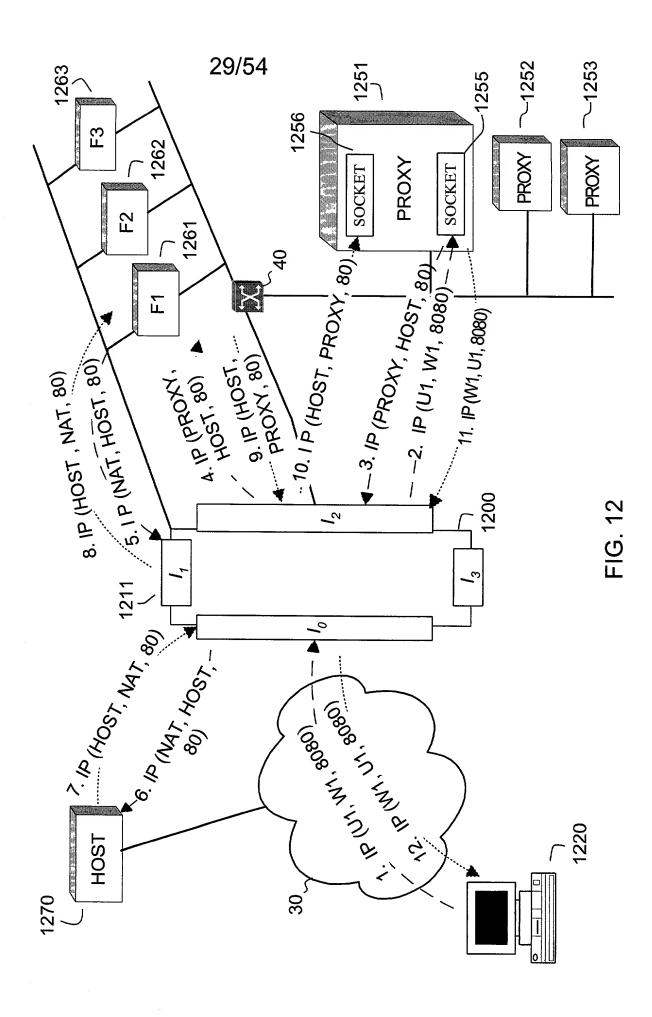
_	T	Т	l	T	1					I				•		· · ·	<u> </u>		1	1	T	T -	1	Т	T	T	1	T	24/	54
PORT	P1	P1	P1	P1	P1					P1					P1	P1	P1	P1	D1											
DESTINATION IP	W1	W1	W1	W1	APP1 (IF NAT	REQUIRED); W1 (IF	LOOPBACK OR	ALIAS SUPPORTED	BY APP1)	.01					U1	01	01	01	APP1	APP1	APP1	APP1	APP1	101	01	01	01	01	934	ı.
SOURCE IP	U1		01	U1	01					APP1 (IF NAT	REQUIRED); W1 (IF	LOOPBACK OR	ALIAS SUPPORTED	BY APP1)	W1	W1	W1	W1	01	01	h	U	01	APP1	APP1	APP1	APP1	APP1) o	
10	PACKETING ENGINE	F1 (INT. FW0)	PACKETING ENGINE	IDS	APP1					PACKETING ENGINE					IDS	F1 (INT. FW1)	PACKETING ENGINE	U1	PACKETING ENGINE	F2 (INT. FW0)	PACKETING ENGINE	IDS	APP1	PACKETING ENGINE	IDS	F2 (INT. FW1)	PACKETING ENGINE	01		FIG. 9D
FROM	U1 (CLIENT)	PACKETING ENGINE	F1 (INT. FW1)	PACKETING ENGINE	PACKETING ENGINE					APP1					PACKETING ENGINE	PACKETING ENGINE	F1 (INT. FW0)	PACKETING ENGINE	U1 (CLIENT)	PACKETING ENGINE	F2 (INT. FW1)	PACKETING ENGINE	PACKETING ENGINE	APP1	PACKETING ENGINE	PACKETING ENGINE	F2 (INT. FW0)	PACKETING ENGINE		
STEP	_	2			4B					S.						(BB				10			m		14A	m		16		

 -	,		···	1				T			-	8 88890000															25	/5	4
ENGINE	CKET TO		G	W1	W1	W1	W1	APP1	W1	W1	APP1				DEFAULT	ROUTE	APP1	APP1	APP1		APP1				DEFAULT	ROUTE			
OM PACKETING	SEND PACKET		MAC	F1(FW0) _M	IDS _M	APP1 _M	APP1 _M		APP1 _M	APP1 _M		IDS _M	F1(FW1)™				F2(FW0) _M	IDS™	APP1 _M		APP1 _M		IDSM	F2(FW1) _M					
(ETING ENGINE SEND IT OUTBOUND FROM PACKETING ENGINE	DEST. SYSTEM	TYPE		TRANSPARENT	TRANSPARENT	LOOPBACK	ALIAS	NAT	LOOPBACK	ALIAS	NAT	TRANSPARENT	TRANSPARENT		ROUTER		TRANSPARENT	TRANSPARENT	SERVER IP	ADDRESS	SERVER IP	ADDRESS	TRANSPARENT	TRANSPARENT	ROUTER		\$	935	
PACKETING SEND	SEND	VIA INT.			_	13	1	1	3		f	1	2		0		4	4	£		6			2	01				FIG. 9E
INTAINED BY PACKETING ENGINE	SERVICE	PORT		P1	P1				P1			P1			Ρ1		PORT>1024	PORT>1024			PORT>1024		PORT>1024		PORT>1024				正
TABLES MA	DEST. IP	ADDRESS		W1	W1												APP1	APP1											
BOUNI	ĮĮ,		<u>d</u>									APP1	OR:	W1	×								APP1		АРР1				
TABLES MA RECEIVE PACKET INBOUND TO PACKET	SOURCE	ADDRESS	MAC		F1(FW1) _M				IDS™			APP1 _M			F1(FW0)™			F2(FW1) M			lDS _M		APP1 _M		F2(FW0) M				
RECEIV	RCX	S !	Z	0	_5							က					0	2					[]		-				









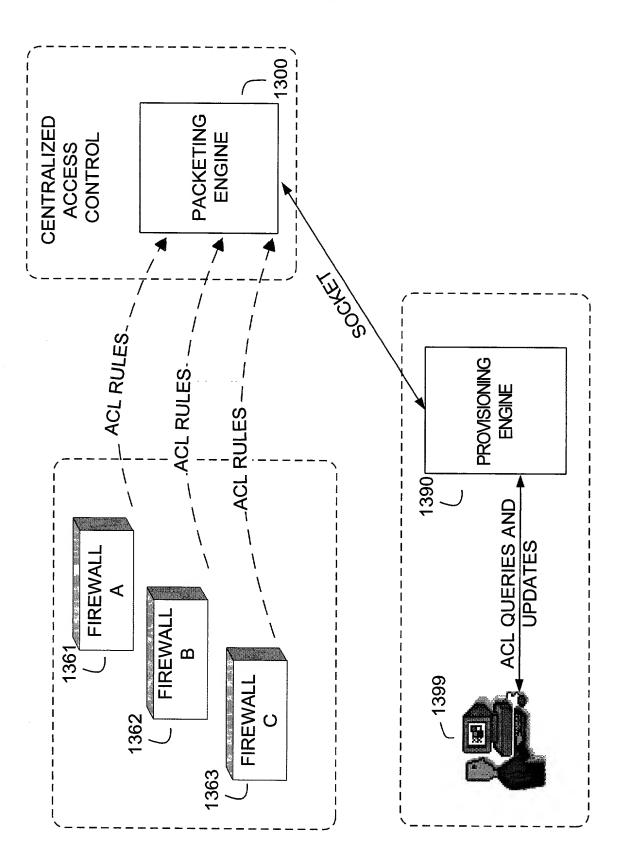


FIG. 13

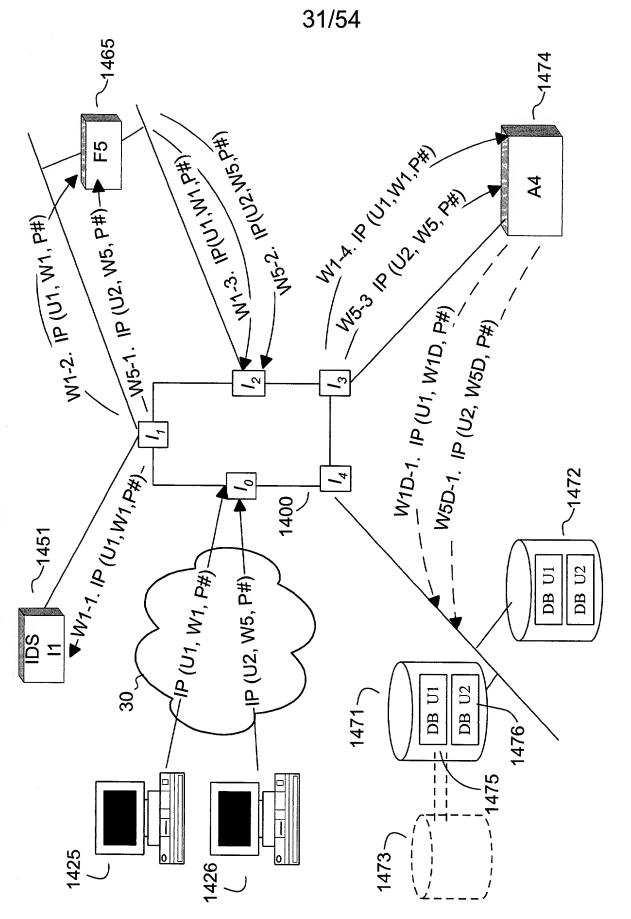


FIG. 14

SERVICE IP ADDRESS W1

	F5		
INTRUSION	FIREWALL	APPLICATION	SERVER
STEP W1-1	STEP W1-2/3		

FIG. 14A

SERVICE IP ADDRESS W5

F5	- A4	
FIREWALL	APPLICATION SERVER	
STEP W5-1/2	STEP W5-3	

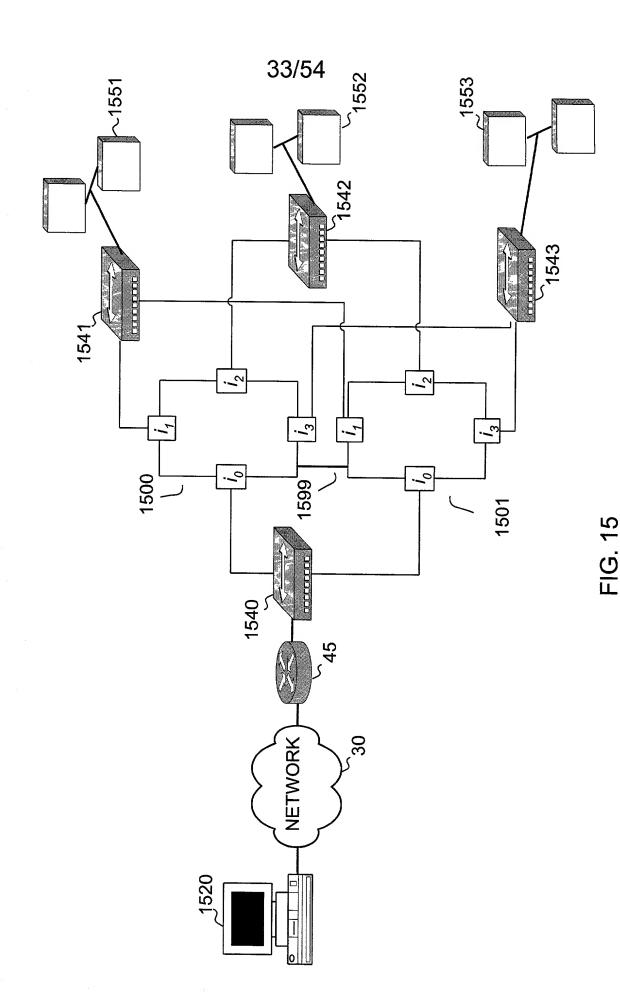
FIG. 14B

SERVICE IP ADDRESS W1D

2	
DATABASE SERVER	
STEP W1D-1	

FIG. 14C

~1434 SERVICE IP ADDRESS W5D | DATABASE | SERVER FIG. 14D STEP W5D-1



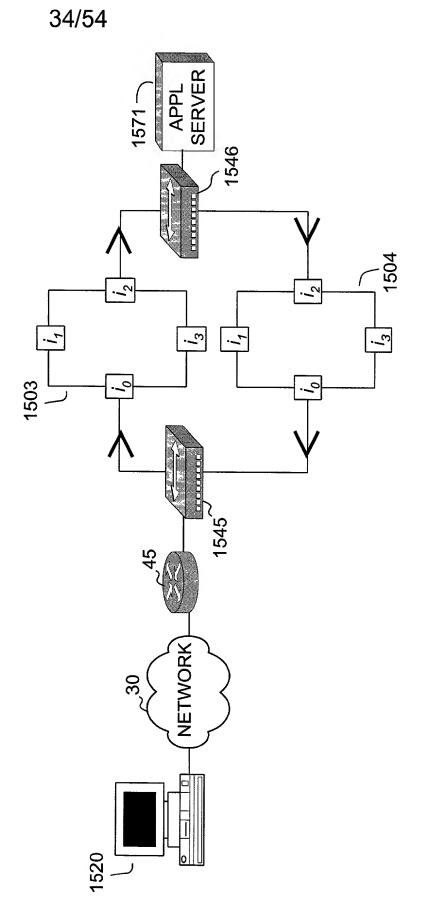


FIG. 15A

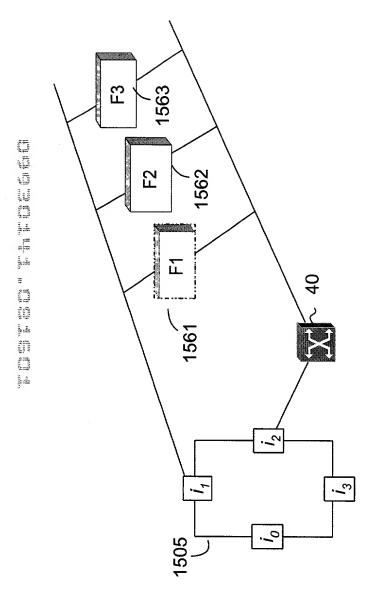
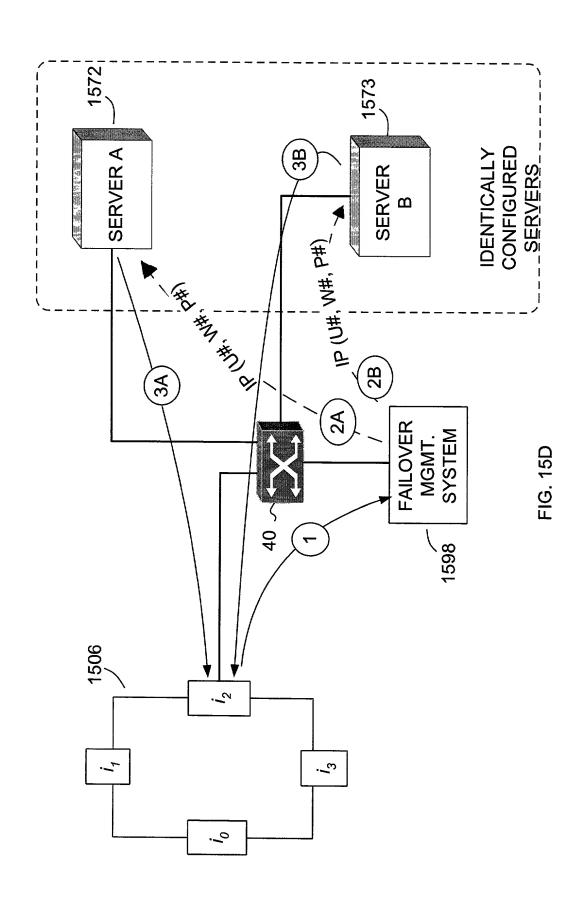
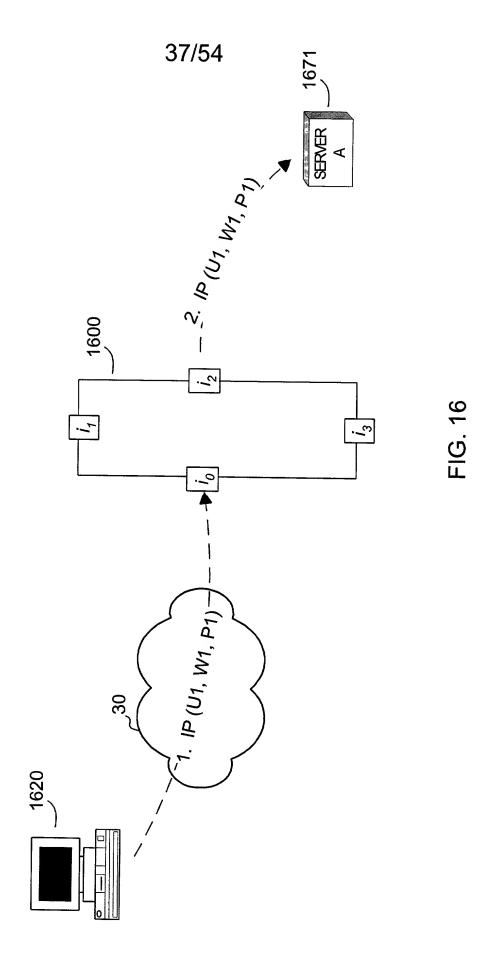


FIG. 15B

GINE	SEND PACKET TO	Д		W1
M PACKETING EN	SEND PA	MAC	FIREWALL FTW	FIREWALL F2 _M
SEND IT OUTBOUND FROM PACKETING ENGINE	DEST. SYSTEM	TYPE	TRANSPARENT	TRANSPARENT
SEN	ROM	TERFACE		

FIG. 15C





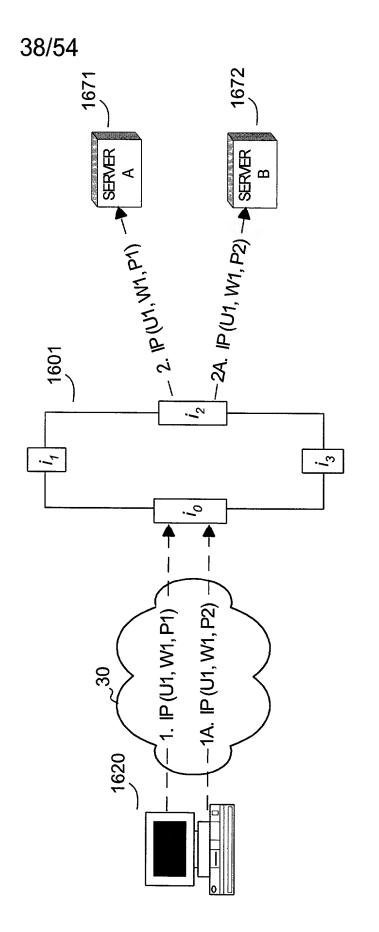


FIG. 16A

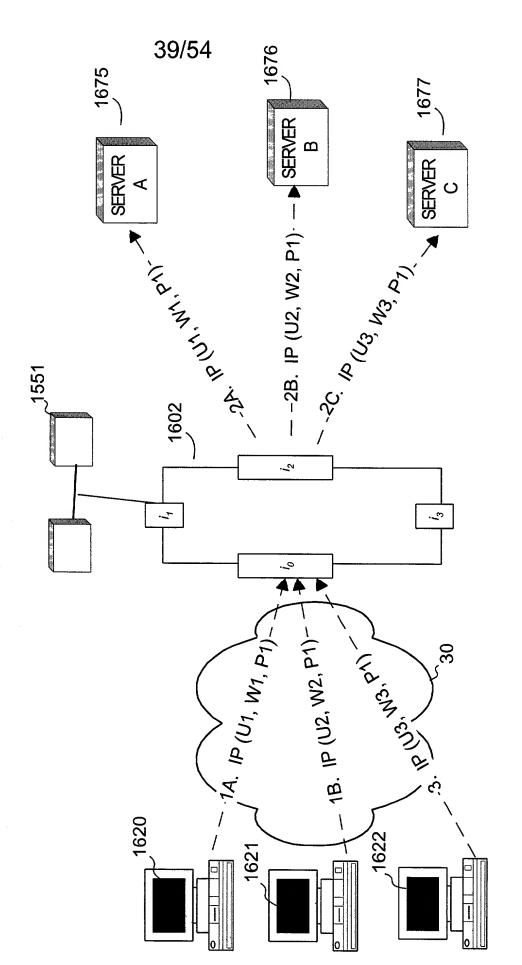
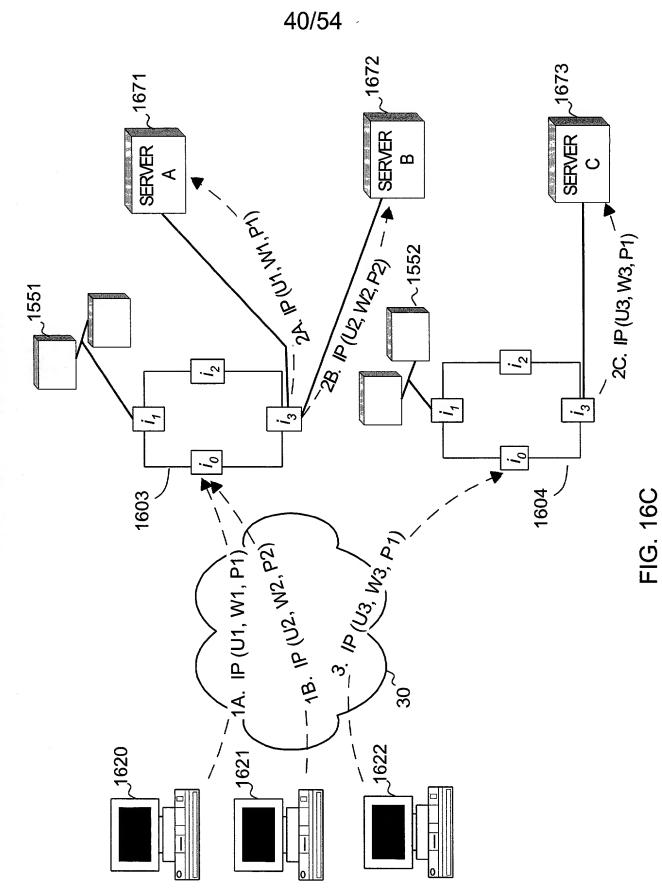


FIG. 16B



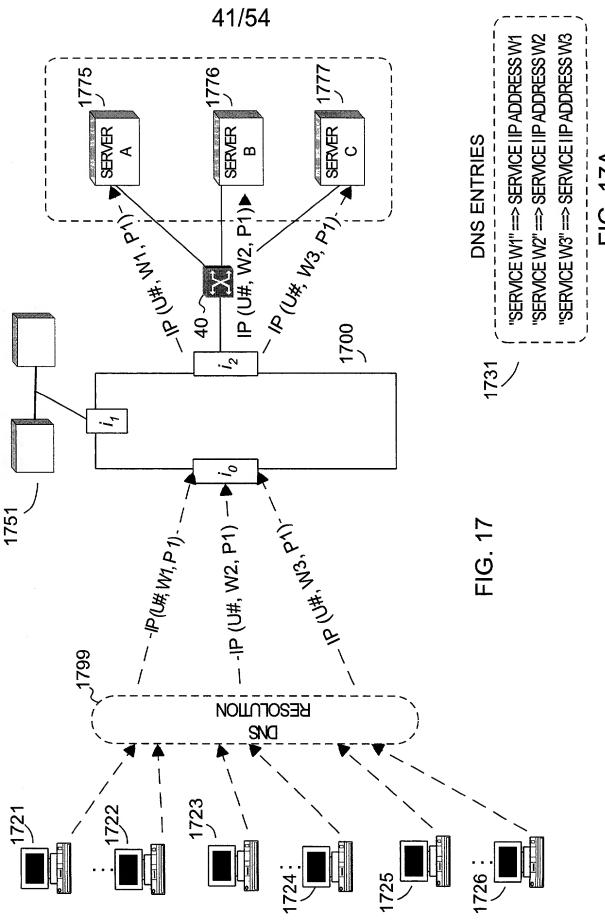
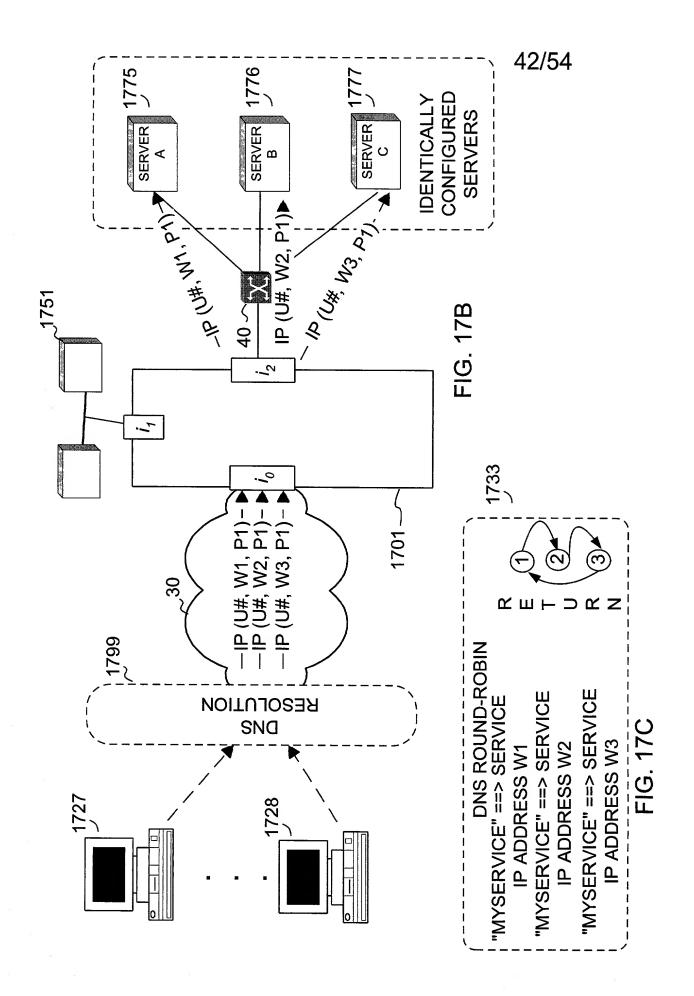


FIG. 17A



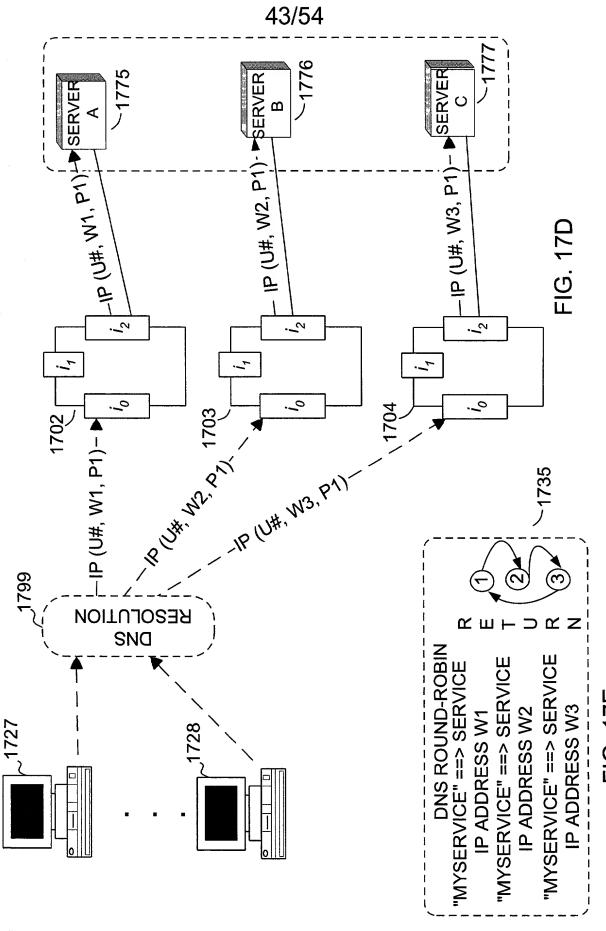
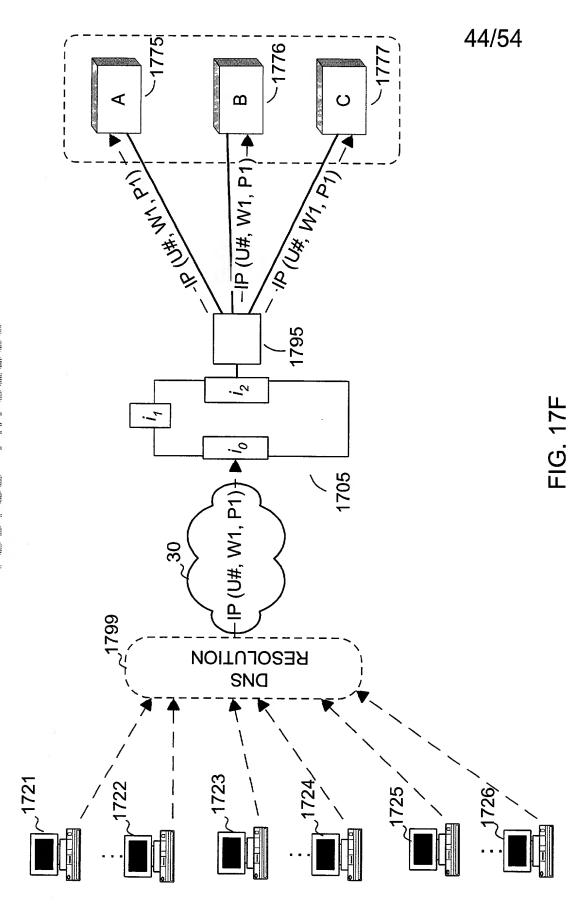
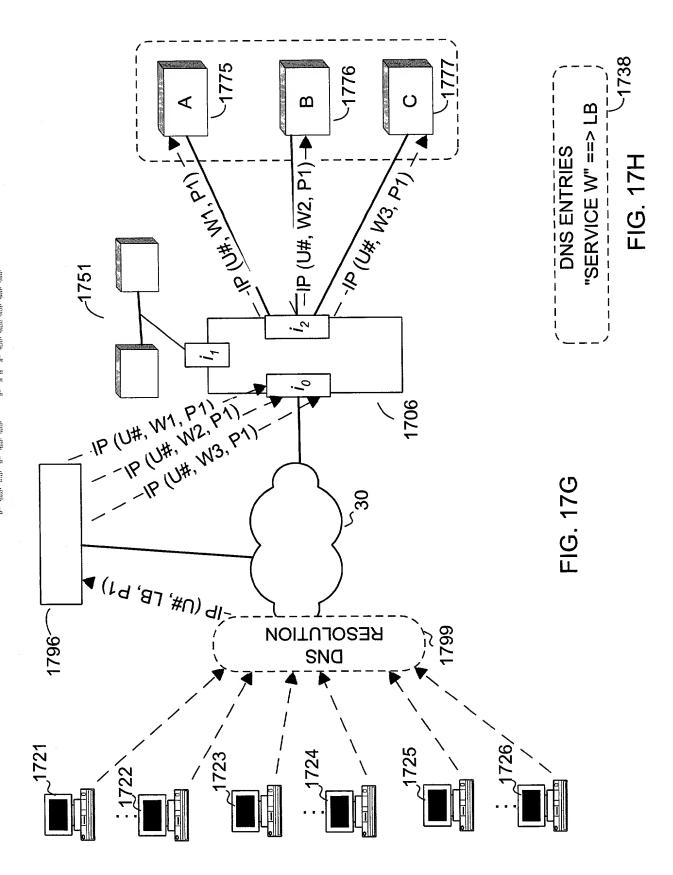
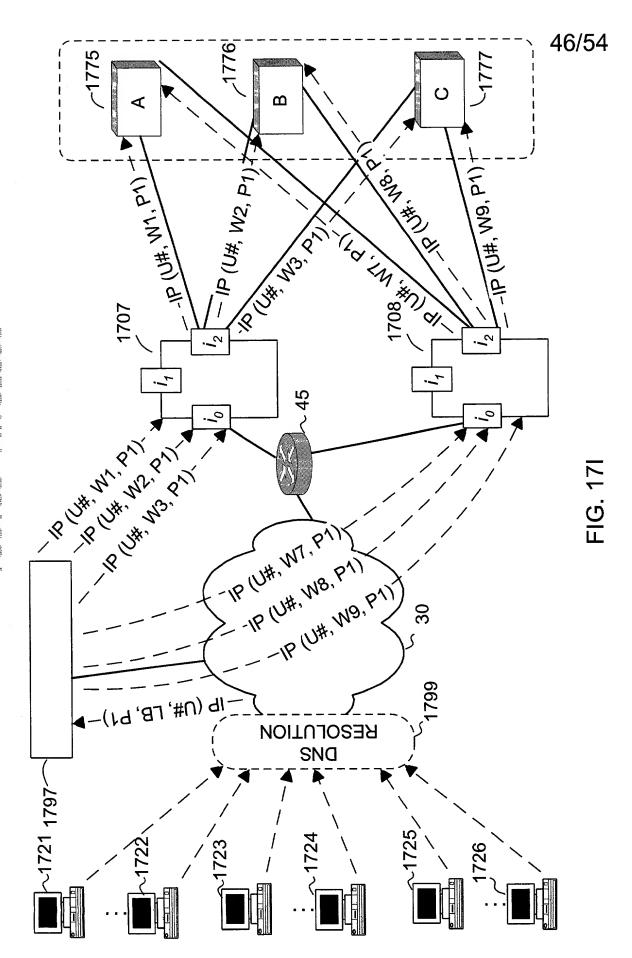
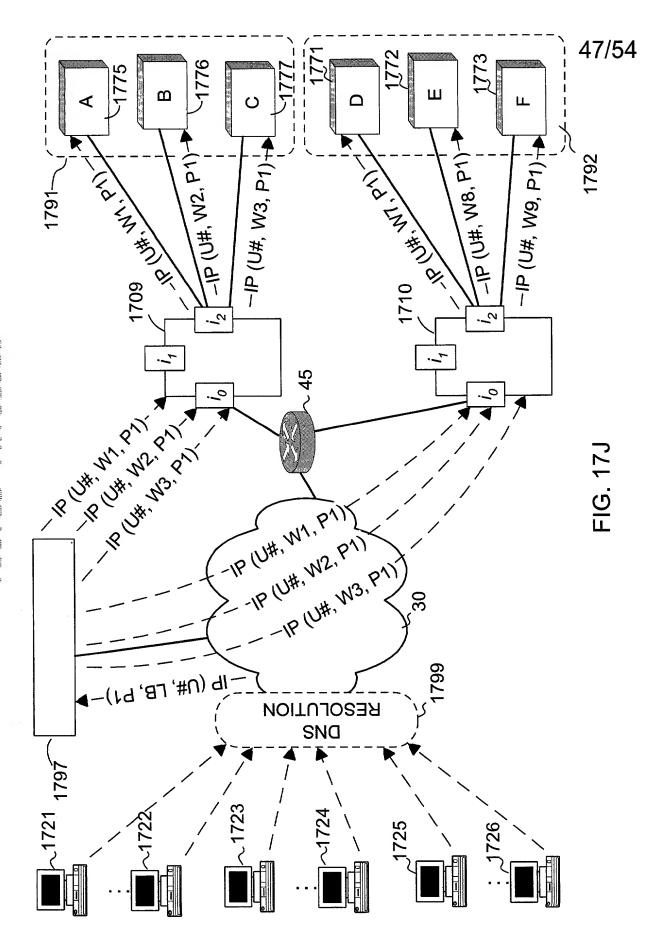


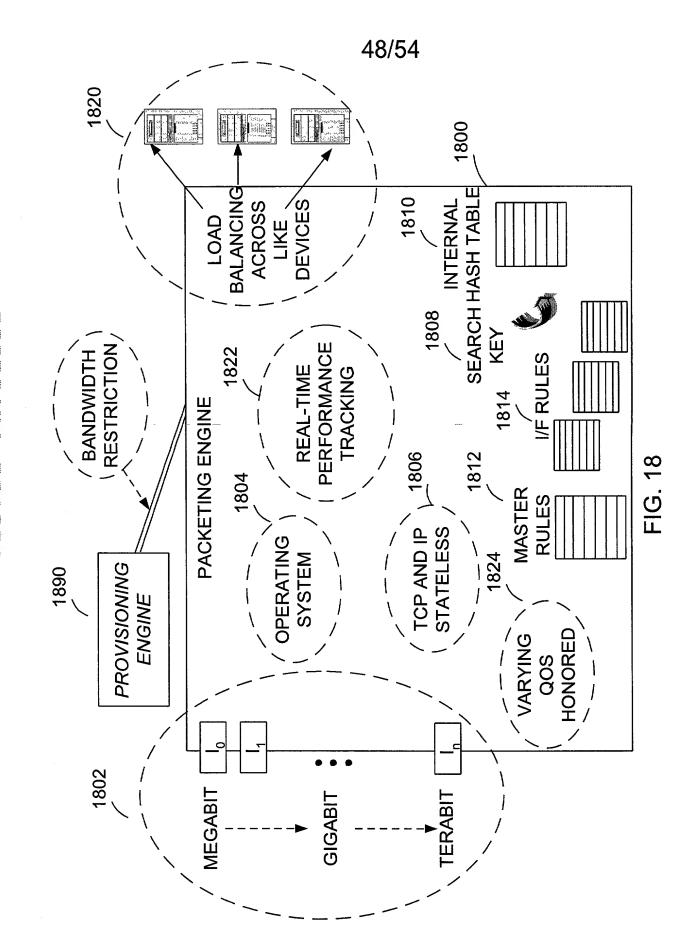
FIG. 17E

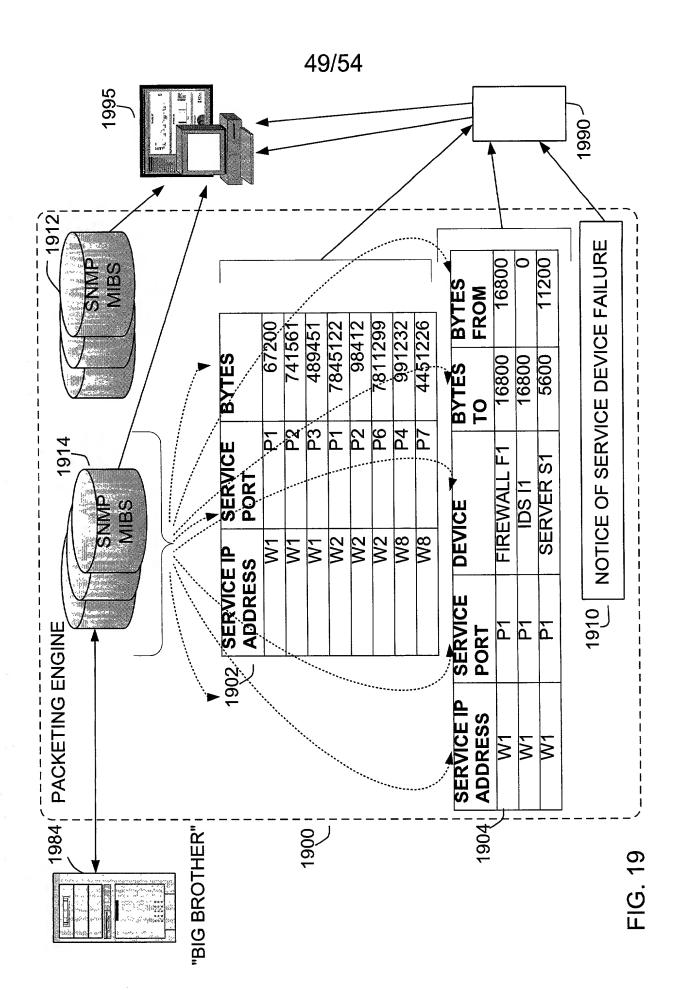












	9	2090										
5900	FIREWALL F5						ALITOMATIC REGENERATION		OF ALL SERVICES THAT	REFERENCED FIREWALL F1		
•••	2092			<u> </u>	\	\	2093/	_				
	8		1				7(,		_		*
SERVER A4	ESS W5 =	INTRUSION DETECTION 11	FIREWALL F1- FIREWALL F3	VPN V3	APPLICATION	SERVER A5	- 0/W 333GC		INTRUSION	DETECTION 11	FIREWALL F4	FIREWALL F3
	SERVICE IP ADDRESS W5 =	INTRUSION DETECTION	FIREWALL	VPN	APPLICATION				INTRUSION	DETECTION	FIREWALL	

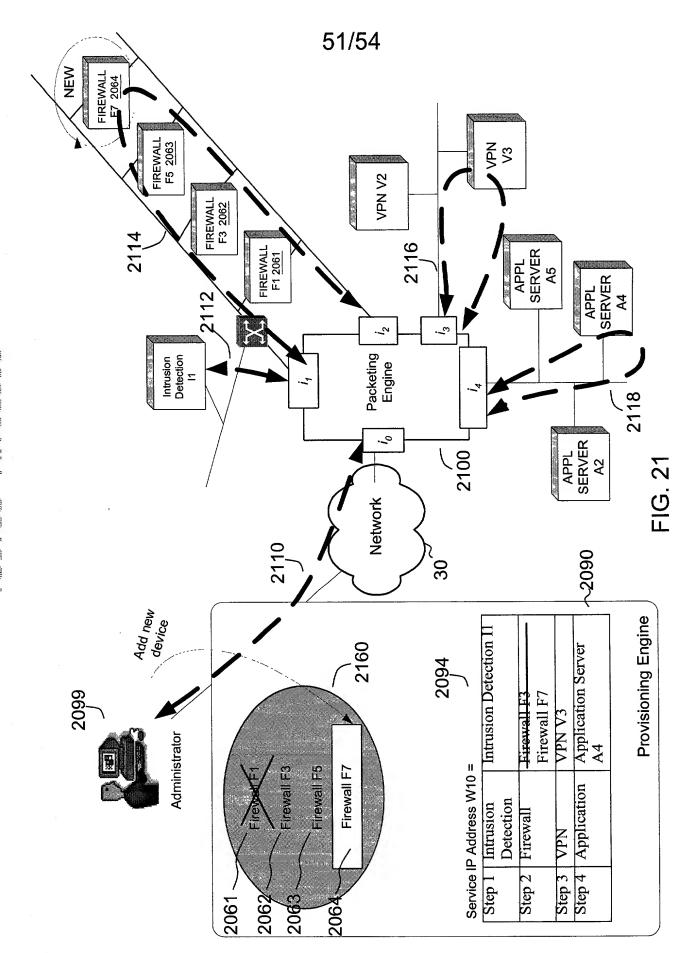
FIG. 20

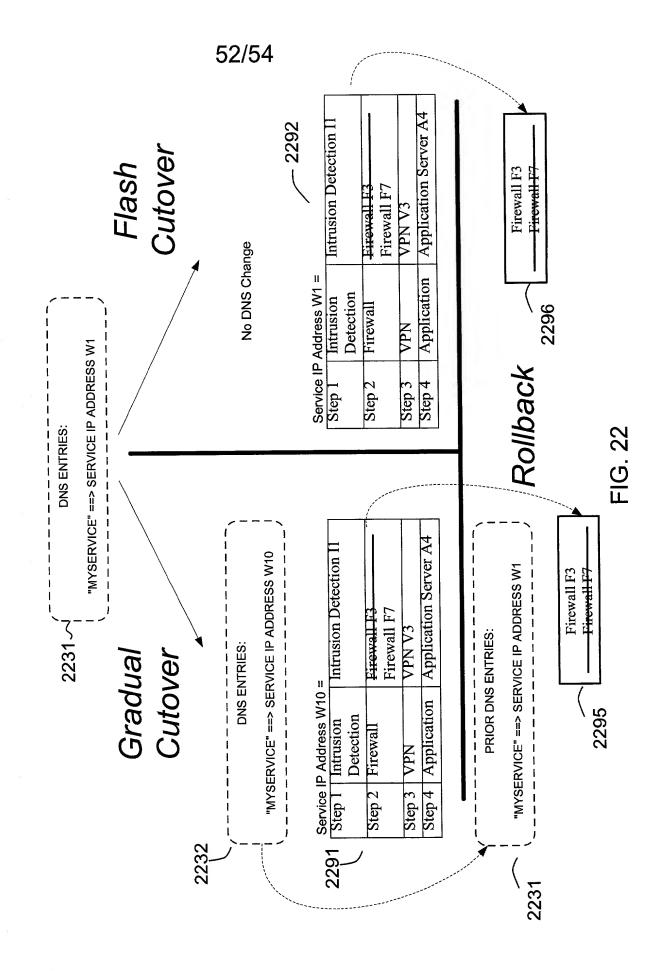
APPLICATION SERVER A2

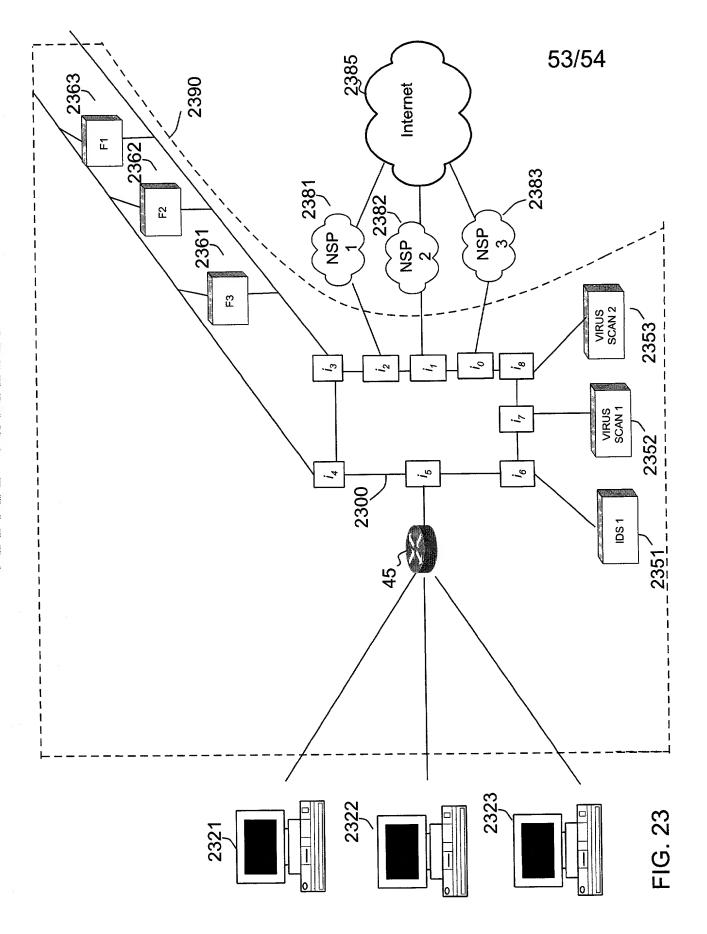
APPLICATION

VPN

VPN V2







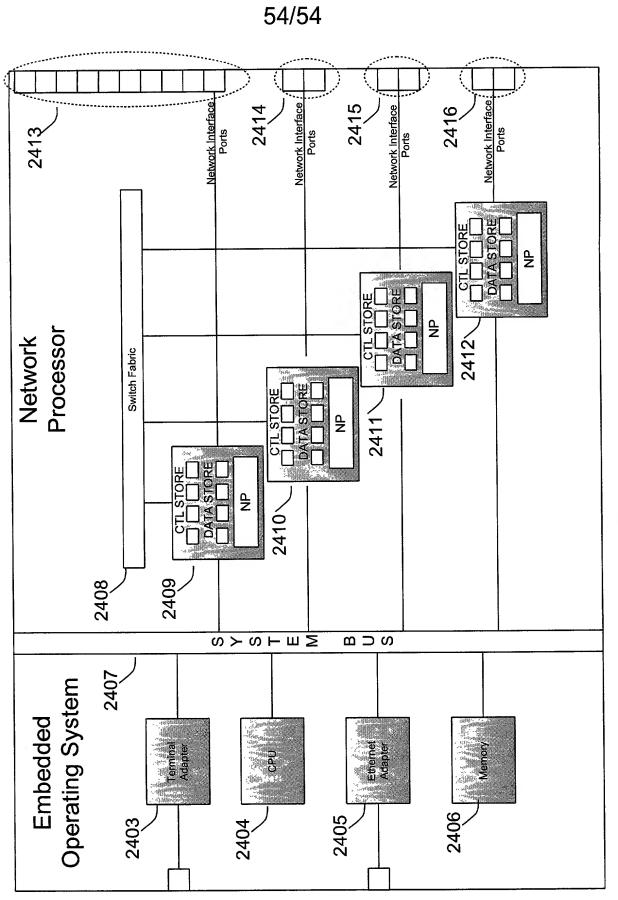


FIG. 24